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EXAMINER

JOHNSON, CARLTON

ART UNIT	PAPER NUMBER
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2436

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/719,674	Applicant(s) HUG, JOSHUA D.	
	Examiner CARLTON V. JOHNSON	Art Unit 2436	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-19,34-36,38,39,41-43,45-52,54 and 56-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-19,34-36,38,39,41-43,45-52,54 and 56-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 1-25-2010 has been entered.

2. Claims 1 - 6, 8 - 19, 34 - 36, 38, 39, 41 - 43, 45 - 52, 54, 56 - 61 are pending. Claims 1, 2, 12, 17, 34, 35, 47, 49, 50 have been amended. Claims 7, 20 - 33, 37, 40, 44, 53, 55 have been cancelled. Claims 1, 34, 49 are independent. This application was filed 11-21-2003.

Response to Arguments

3. Applicant's arguments have been fully considered but were not persuasive.

3.1 Applicant argues that the referenced prior art does not disclose, *"obtaining, by said client device, an external key comprising an integrity secret, wherein said integrity secret is vulnerable based at least in part on its being known to at least an external server device", and "wherein said externally inaccessible client device key is not*

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accessible outside said client device and said internal integrity hash is not vulnerable based on said vulnerability of said externally-known integrity secret"

The amended limitations appear to suggest that a secret is vulnerable because it is known outside of a network node and there is an attempt to protect the secret. The portion concerning the inaccessible client device key was previously disclosed by the Thoma prior art. (see Thoma paragraph [0005], lines 1-3: content distribution; paragraph [0031], lines 15-21; paragraph [0033], lines 5-9; paragraph [0033], lines 11-12: inaccessible key) There is a 112 rejection on the non disclosed portions of the amended claim limitations concerning the vulnerability aspects.

The Thoma prior art also discloses a secret that is protected by placement within a secure container such that only the node that knows or has access to the secret and secure container can access the secret. The secret is vulnerable because it is known but it is also protected (not vulnerable) due to the secure container. This appears to be equivalent to the amended claim limitations. (see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))

3.2 Applicant argues *dependent Claims 5, 6, 10, 32, 33, 43 and 58.*

Responses for the accompanying dependent claims are the same as responses for the associated independent claims.

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3.3 Hardy prior art discloses the generation of a hash consisting of a previously generated hash and an encryption key. (see Hardy col. 10, lines 56-64: combines the digest H, with signer's private key; concatenate two values; hash generated from a hash and a private encryption key) Hall prior art discloses the usage of clear form rights information plus the protection and security of data integrity using a cryptographic hash. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-28: clear form storage of digital rights information, integrity hash) And, the Hall prior art discloses a hash of clear rights information. And, the Hardy prior art discloses a hash within a hash. Therefore, Hall and Hardy prior art combination discloses a hash of clear rights information that is integrated within another hash.

Nonaka prior art discloses detecting whether tampering has occurred by a comparison of a current hash and a base hash value. (see Nonaka paragraph [0246], lines 4-8: comparison of hash values to detect tampering) And, Chase discloses disabling content. (see Chase col. 3, lines 60-63: usage request; col. 4, lines 10-16; col. 33, lines 54-56; col. 33, lines 60-63; col. 34, lines 4-9: content compromised such as tampering, access to content disabled)

In addition, the Hardy prior art discloses the generation of a hash consisting of a previously generated hash and an encryption key. (see Hardy col. 10, lines 56-64: combines the digest H, with signer's private key; concatenate two values; hash generated from a hash and a private encryption key)

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims **49 - 52, 54, 56 - 61** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claim **49 - 52, 54, 56 - 61** are rejected under 35 USC 101 since the claims are directed to non-statutory subject matter. Claims **49 - 52, 54, 56 - 61** recite machine-readable medium which appears to cover both "transitory" and "non-transitory" embodiments. The specification in page 11, line 28 - Page 12, Line 3 discloses the usage of any type of machine-readable medium. The Examiner suggests the Applicant add the limitation "non-transitory" to the machine-readable medium as recited in the claim(s) in order to properly render the claim(s) in statutory form.

Appropriate correction required.

Specification page 11, line 28 - page 12, line 3:

Alternately, as shown in Figure 6, the software routines can be machine executable instructions 610 stored using **any machine readable storage medium 620**, such as a diskette, CD-ROM, magnetic tape, digital video or versatile disk (DVD), laser disk, ROM, Flash memory, etc. The series of **instructions** need not be stored locally, and **could be received from a remote storage device, such as a server on a network**, a CD ROM device, a floppy disk, etc., through, for instance, I/O device(s) 550 of Figure 5.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims **1, 2, 12, 34, 35, 49** and **50** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For Claims **2, 12, 35** and **50**, there is no disclosure of the term, external server, within the specification or original claims. The Examiner interprets to be a network-connected system designated as a server accessible to the other network-connected components. (a network-connected server)

For Claims **1, 34, 49**, there does not appear to be any disclosure for the claim limitations: "... wherein said integrity secret is vulnerable based at least in part on its being known to at least an external server device", and "wherein ... said internal integrity hash is not vulnerable based on said vulnerability of said externally-known integrity secret". The Examiner interprets these claim limitations to indicate that a secret is known by an external system and is protected utilizing some mechanism.

Appropriate correction required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims **1 - 4, 8, 9, 11 - 19, 31, 34 - 36, 38, 39, 41, 42, 45 - 52, 54, 56, 57, 59, 60, 61** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nonaka et al.** (US PG PUB No. **20030046238**) in view of **Hall et al.** (US Patent No. **7,062,500**) and further in view of **Hardy et al.** (US Patent No. **6,079,018**) and **Thoma et al.** (US PG PUB No. **20020152393**).

Regarding Claim 1, Nonaka discloses a method comprising:

a) obtaining clear form rights information at a client device, said clear form rights information being associated with content stored at said client device; (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

Furthermore, Nonaka discloses:

h) storing the encrypted hash on the client device. (see Nonaka paragraph [0246], lines 1-4: storage circuit for encrypted content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Furthermore, Nonaka discloses for e): obtaining an integrity hash of rights information stored at a client device; (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11; paragraph [0027], lines 1-7: generate (i.e. obtain)

integrity hash using UCP (i.e. rights) information; paragraph [0246], lines 1-4:
storage circuit for encrypted content key data; paragraph [0019], lines 1-6;
paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client; paragraph [0192], lines 1-5; paragraph [0239], lines 1-3: data storage)

Nonaka does not specifically disclose whereby rights information stored in a clear form.

However, Hall discloses:

c) obtaining a clear form external integrity hash of first data comprising said clear form rights information; f) obtaining an internal hash of second data comprising said clear form rights information; (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Nonaka-Hall does not specifically disclose a hash comprising a hash and an encryption key.

However, Hardy discloses for f): said clear form rights information and an external

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key as an integrity secret. (see Hardy col. 10, lines 56-64: combines the digest H (previously generated hash), with signer's private key; concatenate two values; hash generated from a previous hash and a private encryption key)

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall for a hash comprising said clear form rights information and an external key as taught by Hardy. One of ordinary skill in the art would have been motivated to employ the teachings of Hardy for a technique that can reliably generate a highly unguessable pseudo-random KEY seed value for use in a digital signature procedure such as DSA. (see Hardy col. 7, lines 54-57)

Furthermore, Nonaka-Hall-Hardy discloses for g): encrypting the integrity hash using a client device key to generate an encrypted hash, said client device key being externally inaccessible from the client device; (see Nonaka paragraph [0026], lines 21-25: encryption utilized UCP (i.e. rights) information; paragraph [0036], lines 1-4: license (i.e. device) keys utilized; paragraph [0346], lines 5-8)

Nonaka-Hall-Hardy does not specifically disclose a device key being externally inaccessible from the client device and a vulnerability mechanism.

However, Thoma discloses:

- b) obtaining, by said client device, an external key comprising an integrity secret, wherein said integrity secret is vulnerable based at least in part on its being known to at least an external server device; (see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an

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outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))

- d) wherein said clear form external integrity hash is vulnerable based at least in part on said vulnerability of said externally-known integrity secret; (see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))
- e) externally inaccessible from the client device key; (see Thoma paragraph [0005], lines 1-3: content distribution; paragraph [0031], lines 15-21; paragraph [0033], lines 5-9; paragraph [0033], lines 11-12: inaccessible key)
- f) wherein said externally inaccessible client device key is not accessible outside said client device and said internal integrity hash is not vulnerable based on said vulnerability of said externally-known integrity secret; (see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall-Hardy for an inaccessible key and a vulnerability mechanism as taught by Thoma. One of ordinary skill in the art would have been motivated to employ the

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teachings of Thoma for selection of a terminal device to receive, distribute digital content from a wide variety of devices. (see Thoma paragraph [0012], lines 7-13)

Regarding Claims 2, 35, 50, Nonaka discloses the method, client device, machine readable medium of claims 1, 34, 49, wherein obtaining the clear form external integrity hash comprises: receiving the clear form external integrity hash from said external server device. (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: receive hash, UCP (i.e. rights) information; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, server)

Regarding Claims 3, 36, 51, Nonaka discloses the method, client device, machine readable medium of claims 1, 34, 49, wherein obtaining the internal integrity hash comprises: generating the internal integrity hash on the client device. (see Nonaka paragraph [0027], lines 1-7: generate hash; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Regarding Claims 4, 52, Nonaka discloses the method, machine readable medium of claims 1, 49.

Nonaka does not specifically disclose storing the rights information on the client device in a clear form

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However, Hall discloses comprising storing said clear form external integrity hash on the client device. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for the storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Regarding Claims 8, 56, Nonaka discloses the method, machine readable medium of claims 1, 49, further comprising:

- a) receiving, at the client device, a content key for the content; (see Nonaka paragraph [0026], lines 21-25: receive encryption key)

Furthermore, Nonaka discloses the following:

- b) encrypting the content key using the client device key to generate an encrypted content key; (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized) and
- c) storing the encrypted content key on the client device. (see Nonaka paragraph [0246], lines 1-4: storage circuit for encrypted content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

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Regarding Claims 9, 42, 57, Nonaka discloses the method, client device, machine readable medium of claims 1, 34, 49 further comprising:

- a) generating a validation hash from at least the rights information; (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus (i.e. client device); paragraph [0027], lines 1-7: generate integrity (i.e. validation) hash)

Furthermore, Nonaka discloses the following:

- b) decrypting the encrypted internal integrity hash to recover the internal integrity hash; (see Nonaka paragraph [0019], lines 1-6; paragraph [0021], lines 3-8: decryption of UCP (i.e. rights) information) and
- c) comparing the validation hash to the integrity hash to detect tampering with the rights information. (see Nonaka paragraph [0246], lines 4-8: comparison of hash values to detect tampering)

Regarding Claim 11, Nonaka discloses the method of claim 1. (see Nonaka paragraph [0246], lines 1-4: storage circuit for UCP (i.e. rights information), and content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Nonaka does not specifically disclose storing the rights information on the client device in a clear form.

However, Hall discloses wherein storing the rights information on the client device in a clear form. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital

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rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for the storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall in order to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Regarding Claim 12, Nonaka discloses the method, of claims 10, further comprising: reading the clear form rights information from the client device to the external server device. (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer UCP (i.e. rights) information)

Nonaka does not specifically disclose reading rights information in clear form.

However, Hall discloses wherein reading the rights information from the client device.

(see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for reading rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall in order to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Regarding Claims 13, 61, Nonaka discloses the method, machine readable medium of

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claims 1, 49, wherein the clear form rights information comprises usage information, the method further comprising:

- a) tracking usage of the content; (see Nonaka paragraph [0053], lines 23-27: track content usage)

Furthermore, Nonaka discloses the following:

- b) updating the clear form rights information with changes in usage; (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer (i.e. update) UCP (i.e. rights) information)

for each update of the clear form rights information;

- d) re-encrypting, and re-storing the internal integrity hash on the client device. (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus (i.e. client device); paragraph [0027], lines 1-7: re-generate (i.e. generate a second time) integrity hash; paragraph [0246], lines 1-4: storage circuit for encrypted UCP (i.e. rights) information)

Nonaka does not specifically disclose a hash comprising a hash and a key.

However, Hall discloses:

- c) re-obtaining the internal integrity hash of second data comprising the updated clear form rights information; (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for a hash comprising a hash and a key as taught by Hall. One of ordinary skill in

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the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Nonaka-Hall does not specifically disclose a hash comprising a hash and an encryption key.

However, Hardy discloses the hash of second data comprising said clear form external integrity hash, and said externally inaccessible client device key. (see Hardy col. 10, lines 56-64: combines the digest H (previously generated hash), with signer's private key; concatenate two values; hash generated from a hash and a private encryption key)

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall for a hash comprising a hash and an encryption key as taught by Hardy. One of ordinary skill in the art would have been motivated to employ the teachings of Hardy for a technique that can reliably generate a highly unguessable pseudo-random KEY seed value for use in a digital signature procedure such as DSA. (see Hardy col. 7, lines 54-57)

Regarding Claim 14, Nonaka discloses the method of claim 1 wherein the internal integrity hash comprises a Hash Message Authentication Code (HMAC). (see Nonaka paragraph [0027], lines 1-7: generate a hash (i.e. integrity hash) value utilizing cryptographic (i.e. encryption/decryption key) procedures in a hash authentication processing system)

Regarding Claims 15, 46, Nonaka discloses the method, client device of claims 1, 34, wherein the client device key comprises a code embedded in hardware of the client device having no externally accessible data path. (see Nonaka paragraph [0036], lines 1-4: license (i.e. device) key utilized; paragraph [0346], lines 5-8: inaccessible secure device utilized for hash generation)

Regarding Claim 16, Nonaka discloses the method of claim 1 wherein the client device comprises at least one of an MP3 player, a personal data assistant, and cellular phone. (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client device such as a PDA, cellular phone, or MP3 player (i.e. systems containing CPU))

Regarding Claim 17, Nonaka discloses the method of claim 1 further comprising at least one of:

- a) downloading the clear form rights information from the external server device; (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer (i.e. download) UCP (i.e. rights) information) and

Furthermore, Nonaka discloses:

- b) installing a storage medium having the rights information stored thereon. (see Nonaka paragraph [0537], lines 3-6: place (i.e. install) on recording medium containing UCP (i.e. rights) information)

Regarding Claim 18, Nonaka discloses the method of claim 1 wherein the clear form rights information grants unlimited play for the content on the client device. (see Nonaka paragraph [0339], lines 2-6: playback module; paragraph [0346], lines 1-5: playback content data)

Regarding Claim 19, Nonaka discloses the method of claim 3 wherein generating the internal integrity hash comprises generating the integrity hash in trusted hardware. (see Nonaka paragraph [0027], lines 1-7: obtain, generate integrity hash: SAM (i.e. trusted, secure hardware), generate hash; paragraph [0346], lines 5-8: inaccessible secure, trusted device) -

Regarding Claim 34, Nonaka discloses a client device comprising:

- d) encryption circuitry to encrypt the integrity hash using the client device key to generate an encrypted hash; (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized)

Furthermore, Nonaka discloses:

- e) said memory being further operative to store the encrypted hash. (see Nonaka paragraph [0246], lines 1-4: storage circuit for encrypted content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Furthermore, Nonaka discloses wherein a memory operative to store content and

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rights information associated with the content, said memory being externally accessible; (see Nonaka paragraph [0246], lines 1-4: storage circuit for content key data; paragraph [0192], lines 1-5; paragraph [0239], lines 1-3: data storage) And, Nonaka discloses wherein hash circuitry operative to obtain an external integrity hash of first data comprising rights information; (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus (i.e. client device); paragraph [0027], lines 1-7: generate (i.e. obtain) integrity hash)

Nonaka does not specifically disclose whereby to store clear form rights information and a second integrity hash.

However, Hall discloses:

b); c); d) to store clear form rights information; (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for the storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Nonaka-Hall does not specifically disclose a hash comprising a hash and an encryption key.

However, Hardy discloses:

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- d) obtain an internal integrity hash of second data comprising information, the external integrity hash, and the client device key; (see Hardy col. 10, lines 56-64: combines the digest H (previously generated hash), with signer's private key; concatenate two values; hash generated from a hash and a private encryption key)

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall for a hash comprising said rights information and an external key as an integrity secret as taught by Hardy. One of ordinary skill in the art would have been motivated to employ the teachings of Hardy for a technique that can reliably generate a highly unguessable pseudo-random KKEY seed value for use in a digital signature procedure such as DSA. (see Hardy col. 7, lines 54-57)

Furthermore, Nonaka-Hall-Hardy discloses a register to store a client device key. (see Nonaka paragraph [0048], lines 1-4: register usage by data processing apparatus)

Nonaka-Hall does not specifically disclose an externally inaccessible key.

However, Thoma discloses:

- a) said register operative for storing a client device key being externally inaccessible from the client device; (see Thoma paragraph [0005], lines 1-3: content distribution; paragraph [0031], lines 15-21; paragraph [0033], lines 5-9; paragraph [0033], lines 11-12: inaccessible key)
- f) wherein said integrity secret is vulnerable based at least in part on its being known to at least an external server device, wherein said clear form external

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integrity hash is vulnerable based at least in part on said vulnerability of said externally-known integrity secret, and wherein said internal integrity hash is not vulnerable based on said vulnerability of said externally-known integrity secret.

(see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall-Hardy for an inaccessible key as taught by Thoma. One of ordinary skill in the art would have been motivated to employ the teachings of Thoma for selection of the terminal device to receive, distribute digital content from a wide variety of devices. (see Thoma paragraph [0012], lines 7-13)

Regarding Claim 38, Nonaka discloses the client device of claim 34, said memory being further operative to store the integrity hash. (see Nonaka paragraph [0246], lines 1-4: storage circuit for content data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Nonaka does not specifically disclose to store clear form external integrity hash.

However, Hall discloses wherein to store the second integrity hash in a clear form. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka to store clear form external integrity hash as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Regarding Claims 39, 54, Nonaka discloses the method, machine readable medium of claims 35, 50, wherein the external key comprises a server device key (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: receive hash, UCP (i.e. rights) information; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, server), said server device having generated the second integrity hash using a server device key. (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, server)

Regarding Claim 41, Nonaka discloses the client device of claim 34 wherein

- a) the encryption circuitry further operative is to encrypt a content key for the content using the client device key; (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized)

Furthermore, Nonaka discloses:

- b) the memory is further operative to store the encrypted content key on the client

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device. ((see Nonaka paragraph [0246], lines 1-4: storage circuit (i.e. memory) for encrypted content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client))

Regarding Claim 45, Nonaka discloses the method of claim 1 wherein the rights information comprises usage information, the client device further comprising::

- a) tracking circuitry to track usage of the content and update the clear form rights information with changes in usage; (see Nonaka paragraph [0053], lines 23-27: track content usage; paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer (i.e. update) UCP (i.e. rights) information)

Furthermore, Nonaka discloses:

- b) wherein the hash circuitry and the encryption circuitry are further operative to regenerate, re-encrypting, and re-storing the internal integrity hash on the client device. (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus (i.e. client device); paragraph [0027], lines 1-7: re-generate (i.e. generate a second time) integrity hash; paragraph [0246], lines 1-4: storage circuit for encrypted UCP (i.e. rights) information)

Nonaka does not specifically disclose rights information stored in a clear form.

However, Hall discloses wherein clear form rights information. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

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It would have been obvious to one of ordinary skill in the art to modify Nanaka for the storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Regarding Claim 47, Nonaka discloses the client device of claim 34 further comprising at least one of:

- a) an input port to download the clear form rights information from a server device;
(see Nonaka paragraph [0019], lines 7-10: interface (i.e. bus) for UCP (i.e. rights) information transfer) and

Furthermore, Nonaka discloses:

- b) a storage medium port to receive a storage medium having the clear form rights information stored thereon. (see Nonaka paragraph [0246], lines 1-4: storage circuit for UCP (i.e. rights) information)

Regarding Claim 48, Nonaka discloses the client device of claim 47 wherein the memory at least partially comprises the storage medium. (see Nonaka paragraph [0246], lines 1-4: storage circuit (i.e. memory) for content data)

Regarding Claim 49, Nonaka discloses a machine readable medium having stored thereon machine executable instructions, the execution of which to implement a method

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comprising:

- c) obtaining an integrity hash of the rights information; (see Nonaka paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus (i.e. client device); paragraph [0027], lines 1-7: generate (i.e. obtain) integrity hash)

Furthermore, Nonaka discloses the following:

- e) encrypting the integrity hash using the client device key to generate an encrypted hash; (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized) and
- f) storing the encrypted hash on the client device. (see Nonaka paragraph [0246], lines 1-4: storage circuit for encrypted content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Furthermore, Nonaka disclose wherein receiving rights information at a client device, said rights information being associated with content stored on the client device, said client device having a client device key and storing the rights information on the client device. (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer UCP (i.e. rights) information; paragraph [0346], lines 5-8: inaccessible secure device utilized for hash generation; paragraph [0192], lines 1-5; paragraph [0239], lines 1-3: data storage)

Nonaka does not specifically disclose whereby receiving clear form rights information, and storing the rights information in a clear form.

However, Hall discloses the following:

- a) receiving clear form rights information, (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)
- b) storing the rights information in a clear form; (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)
- d) obtaining an internal integrity hash of second data comprising said clear form rights information. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for the receipt and storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Nonaka-Hall does not specifically disclose a hash comprising a hash and an encryption key.

However, Hardy discloses wherein a second hash comprising an integrity hash and a client device key. (see Hardy col. 10, lines 56-64: combines the digest H (previously generated hash), with signer's private key; concatenate two values; hash generated from a hash and a private encryption key)

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall for a hash comprising said clear form rights information and an external key as an integrity secret as taught by Hardy. One of ordinary skill in the art would have been motivated to employ the teachings of Hardy for a technique that can reliably generate a highly unguessable pseudo-random KKEY seed value for use in a digital signature procedure such as DSA. (see Hardy col. 7, lines 54-57)

Nonaka-Hall-Hardy does not specifically disclose a client device key that is externally inaccessible and vulnerable assessment.

However, Thoma discloses a client device key that is externally inaccessible from the client device. (see Thoma paragraph [0005], lines 1-3: content distribution; paragraph [0031], lines 15-21; paragraph [0033], lines 5-9; paragraph [0033], lines 11-12: inaccessible key)

And, Thoma discloses said integrity secret is vulnerable based at least in part on its being known to at least an external server device, wherein said clear form external integrity hash is vulnerable based at least in part on said vulnerability of said externally-known integrity secret, and wherein said internal integrity hash is not vulnerable based on said vulnerability of said externally-known integrity secret. (see Thoma col 15, lines 47-60: store the metadata in a secure container; make the DDS readily accessible to an outside application but to protect the associated metadata; knowledge by outside makes the information vulnerable; precautions are take (storage in secure container))

It would have been obvious to one of ordinary skill in the art to modify Nonaka-

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Hall-Hardy for an inaccessible key as taught by Thoma. One of ordinary skill in the art would have been motivated to employ the teachings of Thoma for selection of a terminal device to receive, distribute digital content from a wide variety of devices. (see Thoma paragraph [0012], lines 7-13)

Regarding Claim 59, Nonaka discloses the method of claim 49 wherein the rights information grants unlimited play for the content on the client device. (see Nonaka paragraph [0246], lines 1-4: storage circuit for UCP (i.e. rights information), and content key data; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client; paragraph [0362], lines 1-2; paragraph [0477], lines 1-3: unrestricted (unlimited) playback)

Regarding Claim 60, Nonaka discloses the machine readable medium of claim 59, further comprising: reading the clear form rights information from the client device to a server device. (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: transfer UCP (i.e. rights) information)

Nonaka does not specifically disclose reading rights information in clear form.

However, Hall discloses wherein reading the rights information from the client device. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for reading rights information in clear form as taught by Hall. One of ordinary skill in the art

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would have been motivated to employ the teachings of Hall in order to ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

10. Claims **5, 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nonaka-Hall-Hardy-Thoma** and further in view of **Serret-Avila et al.** (US Patent No. **6,959,384**).

Regarding Claim 5, Nonaka discloses the method of claim 1 further comprising receiving the external key at the client device

storing the integrity hash on the client device. (see Nonaka paragraph [0246], lines 1-4: storage circuit for content key data (i.e. first or second integrity hash); paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, client)

Nonaka does not specifically disclose storing the integrity hash in a clear form.

However, Hall discloses:

b) storing the integrity hash in a clear form. (see Hall col. 2, lines 7-14; col. 6, lines 12-16; col. 6, lines 28-32: digital rights management; col. 6, lines 19-22: clear form storage of digital rights information)

It would have been obvious to one of ordinary skill in the art to modify Nonaka for the storage of digital rights information in clear form as taught by Hall. One of ordinary skill in the art would have been motivated to employ the teachings of Hall to

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ensure data structure integrity, flexibility, interoperability in the management of digital rights information. (see Hall col. 1, lines 34-37)

Nonaka-Hall does specifically disclose the capability to generate a second integrity hash using a first integrity hash.

However, Serret-Avila discloses:

- a) obtaining a second integrity hash of the rights information; (see Serret-Avila col.4, lines 43-49; col. 5, lines 2-11: integrity hash generation using input hash value)

It would have been obvious to one of ordinary skill in the art to modify Nonaka-Hall to generate a second integrity hash as taught by Serret-Avila. One of ordinary skill in the art would have been motivated to employ the teachings of Serret-Avila for a relatively fast, secure, and efficient authentication of data streams. (see Serret-Avila col. 2, line 66 - col. 3, line 3)

Regarding Claim 6, Nonaka discloses the method of claim 5 wherein obtaining the second integrity hash comprises: receiving the second integrity hash from a server device (see Nonaka paragraph [0476], lines 1-4; paragraph [0525], lines 3-6: receive hash, UCP (i.e. rights) information; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6: attached host CPU, server), said server device having generated the second integrity hash using a server device key. (see Nonaka paragraph [0026], lines 21-25: encryption utilized; paragraph [0036], lines 1-4: license (i.e. device) key utilized; paragraph [0019], lines 1-6; paragraph [0019], lines 7-11: data processing apparatus; paragraph [0339], lines 2-6:

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attached host CPU, server)

11. Claims **10, 32, 33, 43, 58** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nonaka-Hall-Hardy-Thoma** and further in view of **Chase, Jr et al.** (US Patent No. **7,080,043**).

Regarding Claims 10, 32, 43, 58, Nonaka discloses the method of claim 9. (see Nonaka paragraph [0246], lines 4-8: comparison of hash values to detect tampering) Nonaka does not specifically disclose disabling content.

However, Chase discloses wherein disabling the content on the client device if tampering is detected. (see Chase col. 3, lines 60-63: usage request; col. 4, lines 10-16; col. 33, lines 54-56; col. 33, lines 60-63; col. 34, lines 4-9: content compromised such as tampering, access to content disabled)

It would have been obvious to one of ordinary skill in the art to modify Nonaka to disable access to content as taught by Chase. One of ordinary skill in the art would have been motivated to employ the teachings of Chase to efficiently manage the rights attached to digital data such as the capability to revoke content if compromised, and add or remove a particular right. (see Chase col. 2, lines 47-51)

Regarding Claim 33, Nonaka discloses the method of claim 31 further comprising: wherein to initiate generation of the validation hash and comparison to the integrity hash. (see Nonaka paragraph [0027], lines 1-7: generation of validation hash;

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paragraph [0246], lines 4-8: comparison hash values to detect tampering).

Nonaka does not specifically disclose the capability to disable content.

However, Chase discloses the following:

- a) receiving a usage request for the content stored at the client device, said usage request; (see Chase col. 3, lines 60-63: usage request; col. 4, lines 10-16; col. 33, lines 54-56; col. 33, lines 60-63; col. 34, lines 4-9: content compromised, access to content disabled) and
- b) permitting usage only if the content is not disabled. (see Chase col. 4, lines 10-16; col. 33, lines 54-56; col. 33, lines 60-63; col. 34, lines 4-9: content compromised, access to content disabled)

It would have been obvious to one of ordinary skill in the art to modify Nonaka to disable content as taught by Chase. One of ordinary skill in the art would have been motivated to employ the teachings of Chase to efficiently manage the rights attached to digital data such as the capability to revoke content if compromised, and add or remove a particular right. (see Chase col. 2, lines 47-51)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlton Johnson whose telephone number is 571-270-1032. The examiner can normally be reached Monday through Friday from 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Nassar Moazzami, can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Nasser Moazzami/
Supervisory Patent Examiner, Art Unit 2436

Carlton V. Johnson
Examiner
Art Unit 2436

CVJ
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